

Biography Maddy D. Janse – Philips Research

Maddy Janse joined Philips in 1987 as a specialist in User System Interaction. In this function she worked at the CFT, at the IPO (Institute for Perception Research, a joint venture between Philips Research and the Technical University of Eindhoven) and Philips Research.

Her main research interests are in the area of human factors, human perception and behaviour, user interface design for easy access and interaction for consumer systems. She has been working on methodologies for subjective evaluation of advisory systems for video content in the context of the ACTS SMASH and STORit projects.

Currently she is the project manager for the IST ICE-CREAM project and before that of the IST NexTV project. She is Managing Director of a two-year international postgraduate Master's programme in User-System Interaction Design at the Technical University of Eindhoven. Before joining Philips she worked at the Unisys Company (then Sperry) in an Advanced Systems Group in Minneapolis (US) responsible for technology transfer between the company and the MCC organisation in the area of artificial intelligence, expert systems and advanced user interface technology.

Maddy Janse has a PhD in Cognitive Psychology - human problem solving (University of Minnesota) and a graduate degree in Food Chemistry and Technology (University of Wageningen).

Abstract Presentation:

Converging Technologies: New Horizons For Users And Businesses.

ICE_CREAM: Different Flavours of Interactive Media. And other Case Studies.

Converging technologies make it possible for new service scenarios to emerge. Multimedia content is becoming a commodity and the roles of producer and consumer are becoming interchangeable and dynamic. Consumers are becoming content creators who can publish and share content, interact with it and present and store it on all kinds of devices. Consumer electronics devices with a connection to the Internet offer users new ways of interaction with content and communication with one another. These possibilities pose enormous challenges for open standards and rights management, for interoperability between competing businesses, and for defining appropriate business models. But, what's in all of this for the consumer? How can we identify and explain consumer benefits? Why should things link and think? These and other questions will be addressed in this presentation based on our work in the ICE-CREAM project.

The overall objective of the ICE-CREAM project is to investigate how to make compelling experiences for end-users based on the possibilities of integrating technologies for interactive media, for example, DVB-MHP, MPEG-4, and Internet technologies. Technological options that address different levels of interactivity for end-users are investigated and implemented in prototypes, and supported by business frameworks. Applications are the carriers in the project. They were chosen such that they covered a wide range of technical, business, social and conceptual domains They reflect the challenges and directions that we see as crucial for the development of applications and technology and within the context of development of open standards, i.e., the migration of DVB-MHP and MPEG-4, the integration of this platform with Internet technology and with 3D graphics. Business models are an intrinsic component for the development of applications and determine their success. The quality of the content, how the end-user can use it and whether this can be done in a fun, easy and appropriate way, however, are the most essential ingredients for end-user applications.

Established interactive TV services like EPG, shopping, and super teletext services often exist

independently from the current TV programme. The video broadcast and the additional services just happen to be presented on the same device, but are rarely integrated to achieve an enhanced viewing experience. Enhanced broadcast often means a coexistence of various services, which, for the viewer, only provides the benefit of the sum of the available services, instead of allowing the services and the video broadcast to support each other and provide a benefit that is higher than the sum of the individual benefits. To achieve this added value, all ICE-CREAM applications were designed to integrate video content and additional services closely.

Three applications were investigated:

1. Real time sports event: In this application a football match is enhanced with commentary or annotations of player actions and additional hot and cold statistics. There is also the capability of replaying selected scenes in 3D animated form. This application represents a familiar topic and context for the user with regard to interaction and content consumption. The user interface is implemented on the Trimedia set-top box, with a familiar remote control, trusted TV appearance, and live broadcast. The application achieved unique propositions for users, such as,

- Enhancements with real-time content, contextual information and highlights available on demand.
- Interactive 3D animations based on field measurements for replay, reconstruction and analyses of the game.
- Changing viewing positions, from the player's position, following the player and from behind the player.
- Graceful aging of enhanced content presented in the user interface.
- Over viewing the game from above and measuring positions.

2.Travel Application: In this application a travel video is enhanced with specific information about the various attractions presented in the video and other travel related information, which is either part of the broadcast or retrieved from the Internet. This application represents a familiar topic and context for the user, i.e., TV travel documentaries/programs. The interaction, however, is more familiar to users of Internet and mobile devices as the additional information is linked to the video content and can be ported for use on the move. The user interfaces were adapted to each device, i.e., set-top box, connected PDA and 3G mobile phone. The application achieved unique propositions:

- For users: access to content enhancements in relation to the video content and specific scenes, e.g., attractions, what's on agenda's, quiz participation, ticket booking, announcements, SMS messages, user preferences, tour lay-outs and suggestions.
- For providers: flexible and easy customization of content and services, content-centric services, different means for publishing and presentation of content, integration of different service platforms.

3. DeepSea Application: In this application a video is enhanced with fictional content, which uses 3D graphics and animation to enhance the users viewing experience. The application also interacts with the user environment to create an immersive experience. The Deepsea application is rather unfamiliar for the average TV viewer. Elements of this scenario, however, are familiar for people who play computer games, visit theme parks and explore 3D virtual reality environments. Content and user interaction are inseparable for this application scenario. The application achieved unique propositions for users, such as,

- Ambiance effects with room lights to support the suspense of the scene.
- Different content elements displayed on different screens and enabling challenging and playful situations.
- Different modes for interacting with the scenes, i.e., discovery, game, drama,.

- Different interaction devices, interactive display, toy.
- Role-play when multiple users are participating.

These three applications were implemented and feedback from users was obtained at different levels of evaluation. The soccer application is currently being evaluated in an open trial in the Euskaltelium, a facility in which the latest advancements in telecommunications technology are exhibited to the public at large, the travel application was tested as a use case for tourists, and the Deepsea application was tested in a laboratory living room setting.